

FILE 'HOME' ENTERED AT 12:30:47 ON 15 JUL 2010

=> logogg

LOGOGG IS NOT A RECOGNIZED COMMAND

The previous command name entered was not recognized by the system.

For a list of commands available to you in the current file, enter

"HELP COMMANDS" at an arrow prompt (=>).

=> logfff

LOGFFF IS NOT A RECOGNIZED COMMAND

The previous command name entered was not recognized by the system.

For a list of commands available to you in the current file, enter

"HELP COMMANDS" at an arrow prompt (=>).

=> logoff y

(FILE 'HOME' ENTERED AT 12:30:47 ON 15 JUL 2010)

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

0.44

0.44

STN INTERNATIONAL LOGOFF AT 12:31:52 ON 15 JUL 2010

Connecting via Winsock to STN

Welcome to STN International! Enter x:X

LOGINID:ssspat1641pxd

PASSWORD:

TERMINAL (ENTER 1, 2, 3, OR ?):2

* * * * * Welcome to STN International * * * * *

NEWS	1		Web Page for STN Seminar Schedule - N. America
NEWS	2	JAN 12	Match STN Content and Features to Your Information Needs, Quickly and Conveniently
NEWS	3	JAN 25	Annual Reload of MEDLINE database
NEWS	4	FEB 16	STN Express Maintenance Release, Version 8.4.2, Is Now Available for Download
NEWS	5	FEB 16	Derwent World Patents Index (DWPI) Revises Indexing of Author Abstracts
NEWS	6	FEB 16	New PASTA Display Formats Added to USGENE and PCTGEN
NEWS	7	FEB 16	INPADOCDB and INPAFAMDB Enriched with New Content and Features
NEWS	8	FEB 16	INSPEC Adding Its Own IPC codes and Author's E-mail Addresses
NEWS	9	APR 02	CAS Registry Number Crossover Limits Increased to 500,000 in Key STN Databases
NEWS	10	APR 02	PATDPAFULL: Application and priority number formats enhanced
NEWS	11	APR 02	DWPI: New display format ALLSTR available
NEWS	12	APR 02	New Thesaurus Added to Derwent Databases for Smooth Sailing through U.S. Patent Codes

NEWS 13 APR 02 EMBASE Adds Unique Records from MEDLINE, Expanding Coverage back to 1948

NEWS 14 APR 07 CA/Caplus CLASS Display Streamlined with Removal of Pre-IPC 8 Data Fields

NEWS 15 APR 07 50,000 World Traditional Medicine (WTM) Patents Now Available in Caplus

NEWS 16 APR 07 MEDLINE Coverage Is Extended Back to 1947

NEWS 17 JUN 16 WPI First View (File WPIFV) will no longer be available after July 30, 2010

NEWS 18 JUN 18 DWPI: New coverage - French Granted Patents

NEWS 19 JUN 18 CAS and FIZ Karlsruhe announce plans for a new STN platform

NEWS 20 JUN 18 IPC codes have been added to the INSPEC backfile (1969-2009)

NEWS 21 JUN 21 Removal of Pre-IPC 8 data fields streamline displays in CA/Caplus, CASREACT, and MARPAT

NEWS 22 JUN 21 Access an additional 1.8 million records exclusively enhanced with 1.9 million CAS Registry Numbers -- EMBASE Classic on STN

NEWS 23 JUN 28 Introducing "CAS Chemistry Research Report": 40 Years of Biofuel Research Reveal China Now Atop U.S. in Patenting and Commercialization of Bioethanol

NEWS 24 JUN 29 Enhanced Batch Search Options in DGENE, USGENE, and PCTGEN

NEWS EXPRESS FEBRUARY 15 10 CURRENT WINDOWS VERSION IS V8.4.2, AND CURRENT DISCOVER FILE IS DATED 15 JANUARY 2010.

NEWS HOURS STN Operating Hours Plus Help Desk Availability

NEWS LOGIN Welcome Banner and News Items

Enter NEWS followed by the item number or name to see news on that specific topic.

All use of STN is subject to the provisions of the STN customer agreement. This agreement limits use to scientific research. Use for software development or design, implementation of commercial gateways, or use of CAS and STN data in the building of commercial products is prohibited and may result in loss of user privileges and other penalties.

***** STN Columbus *****

FILE 'HOME' ENTERED AT 15:14:47 ON 15 JUL 2010

=> file .pensee		
COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	6.82	6.82

FILE 'CAPLUS' ENTERED AT 15:33:34 ON 15 JUL 2010
 USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
 PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
 COPYRIGHT (C) 2010 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'MEDLINE' ENTERED AT 15:33:34 ON 15 JUL 2010

FILE 'BIOSIS' ENTERED AT 15:33:34 ON 15 JUL 2010
 Copyright (c) 2010 The Thomson Corporation

FILE 'BIOTECHNO' ENTERED AT 15:33:34 ON 15 JUL 2010

COPYRIGHT (C) 2010 Elsevier Science B.V., Amsterdam. All rights reserved.

FILE 'COMPENDEX' ENTERED AT 15:33:34 ON 15 JUL 2010
Compendex Compilation and Indexing (C) 2010
Elsevier Engineering Information Inc (EEI). All rights reserved.
Compendex (R) is a registered Trademark of Elsevier Engineering Information Inc.

FILE 'ANABSTR' ENTERED AT 15:33:34 ON 15 JUL 2010
COPYRIGHT (c) 2010 THE ROYAL SOCIETY OF CHEMISTRY (RSC)

FILE 'CERAB' ENTERED AT 15:33:34 ON 15 JUL 2010
COPYRIGHT (C) 2010 Cambridge Scientific Abstracts (CSA)

FILE 'METADEX' ENTERED AT 15:33:34 ON 15 JUL 2010
COPYRIGHT (c) 2010 Cambridge Scientific Abstracts (CSA)

FILE 'USPATFULL' ENTERED AT 15:33:34 ON 15 JUL 2010
CA INDEXING COPYRIGHT (C) 2010 AMERICAN CHEMICAL SOCIETY (ACS)

=> e boder eric/au

E1	1	BODER ELEK/AU
E2	11	BODER ELENA/AU
E3	5 -->	BODER ERIC/AU
E4	85	BODER ERIC T/AU
E5	1	BODER ERIC THOMAS/AU
E6	1	BODER ERICH/AU
E7	2	BODER FRANZ/AU
E8	8	BODER G/AU
E9	125	BODER G B/AU
E10	4	BODER G G/AU
E11	9	BODER GEORGE/AU
E12	48	BODER GEORGE B/AU

-> s e3-e5

L1 91 ("BODER ERIC"/AU OR "BODER ERIC T"/AU OR "BODER ERIC THOMAS"/AU)

-> dup rem l1

PROCESSING COMPLETED FOR L1

L2 47 DUP REM L1 (44 DUPLICATES REMOVED)

-> d 12 1-5 ti

L2 ANSWER 1 OF 47 CAPLUS COPYRIGHT 2010 ACS on STN

TI Engineering peptide recognition by class II MHC

L2 ANSWER 2 OF 47 CAPLUS COPYRIGHT 2010 ACS on STN

TI Specific and covalent cross-linking of proteins in vivo using the SortaseA enzyme

L2 ANSWER 3 OF 47 CAPLUS COPYRIGHT 2010 ACS on STN

TI High-throughput engineering and analysis of peptide binding to class II MHC

L2 ANSWER 4 OF 47 USPATFULL on STN

TI Yeast cell surface display of proteins and uses thereof

L2 ANSWER 5 OF 47 CAPLUS COPYRIGHT 2010 ACS on STN DUPLICATE 1

TI Structural coupling between FKBP12 and buried water

=> d 12 4 ibib abs

L2 ANSWER 4 OF 47 USPATFULL on STN

ACCESSION NUMBER: 2009:313312 USPATFULL <<LOGINID::20100715>>
TITLE: Yeast cell surface display of proteins and uses thereof
INVENTOR(S): Wittrup, K. Dane, Chestnut Hill, MA, UNITED STATES
Kranz, David M., Champaign, IL, UNITED STATES
Kleke, Michele, Urbana, IL, UNITED STATES
Boder, Eric T., Media, PA, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20090280560	A1	20091112
APPLICATION INFO.:	US 2008-316916	A1	20081216 (12)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 2003-738454, filed on 16 Dec 2003, Pat. No. US 7465787 Division of Ser. No. US 2000-724108, filed on 28 Nov 2000, Pat. No. US 6696251 Continuation of Ser. No. US 1998-9388, filed on 20 Jan 1998, Pat. No. US 6699658 Continuation-in-part of Ser. No. US 1997-866398, filed on 30 May 1997, ABANDONED		

	NUMBER	DATE
PRIORITY INFORMATION:	US 1996-18741P	19960531 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	GREENLEE WINNER AND SULLIVAN P C, 4875 PEARL EAST CIRCLE, SUITE 200, BOULDER, CO, 80301, US	
NUMBER OF CLAIMS:	18	
EXEMPLARY CLAIM:	1-39	
NUMBER OF DRAWINGS:	27 Drawing Page(s)	
LINE COUNT:	2609	
CAS INDEXING IS AVAILABLE FOR THIS PATENT.		

AB The present invention provides a genetic method for tethering polypeptides to the yeast cell wall in a form accessible for binding to macromolecules. Combining this method with fluorescence-activated cell sorting provides a means of selecting proteins with increased or decreased affinity for another molecule, altered specificity, or conditional binding. Also provided is a method for genetic fusion of the N terminus of a polypeptide of interest to the C-terminus of the yeast Aga2p cell wall protein. The outer wall of each yeast cell can display approximately 10^{sup}.4 protein agglutinins. The native agglutinins serve as specific adhesion contacts to fuse yeast cells of opposite mating type during mating. In effect, yeast has evolved a platform for protein-protein binding without steric hindrance from cell wall components. As one embodiment, attaching an scFv antibody fragment to the Aga2p agglutinin effectively mimics the cell surface display of antibodies by B cells in the immune system for affinity maturation in vivo. As another embodiment, T cell receptor mutants can be isolated by this method that are efficiently displayed on the yeast cell surface, providing a means of altering T cell receptor binding affinity and specificity by library screening.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

=> d 12 6-10 ti

L2 ANSWER 6 OF 47 BIOSIS COPYRIGHT (c) 2010 The Thomson Corporation on STN
TI Yeast cell surface display of proteins and uses thereof.

L2 ANSWER 7 OF 47 CAPLUS COPYRIGHT 2010 ACS on STN DUPLICATE 2
 TI A decade of yeast surface display technology: where are we now?

L2 ANSWER 8 OF 47 CAPLUS COPYRIGHT 2010 ACS on STN DUPLICATE 3
 TI Phylogenetic Divergence of CD47 Interactions with Human Signal Regulatory Protein α Reveals Locus of Species Specificity. Implications for the Binding Site

L2 ANSWER 9 OF 47 CAPLUS COPYRIGHT 2010 ACS on STN DUPLICATE 4
 TI Sortase A as a Novel Molecular "Stapler" for Sequence-Specific Protein Conjugation

L2 ANSWER 10 OF 47 CAPLUS COPYRIGHT 2010 ACS on STN DUPLICATE 5
 TI Species- and cell type-specific interactions between CD47 and human SIRP α

-> d 12 11-20 ti

L2 ANSWER 11 OF 47 CAPLUS COPYRIGHT 2010 ACS on STN DUPLICATE 6
 TI Changing the Specificity of a Bacterial Chemoreceptor

L2 ANSWER 12 OF 47 CAPLUS COPYRIGHT 2010 ACS on STN
 TI Modulating the DNA affinity of Elk-1 with computationally selected mutations

L2 ANSWER 13 OF 47 CAPLUS COPYRIGHT 2010 ACS on STN
 TI An interior water is essential for maintaining the structure of FKBP12

L2 ANSWER 14 OF 47 CAPLUS COPYRIGHT 2010 ACS on STN DUPLICATE 7
 TI Autocatalytic Activation of Influenza Hemagglutinin

L2 ANSWER 15 OF 47 CAPLUS COPYRIGHT 2010 ACS on STN DUPLICATE 8
 TI Limitations of yeast surface display in engineering proteins of high thermostability

L2 ANSWER 16 OF 47 MEDLINE on STN DUPLICATE 9
 TI Post-translational regulation of expression and conformation of an immunoglobulin domain in yeast surface display.

L2 ANSWER 17 OF 47 CAPLUS COPYRIGHT 2010 ACS on STN DUPLICATE 10
 TI Rolling Adhesion of α L I Domain Mutants Decorrelated from Binding Affinity

L2 ANSWER 18 OF 47 COMPENDEX COPYRIGHT 2010 EEI on STN
 TI Pleiotropic responses mediated by Cd47-Sirp.box. binding: Adhesion as a common link

L2 ANSWER 19 OF 47 COMPENDEX COPYRIGHT 2010 EEI on STN
 TI Regulation of Cd47-sirp interactions by post-translational modifications

L2 ANSWER 20 OF 47 COMPENDEX COPYRIGHT 2010 EEI on STN
 TI Global intertrimer cooperativity of influenza hemagglutinin conformational change

-> d 12 15 ibib abs

L2 ANSWER 15 OF 47 CAPLUS COPYRIGHT 2010 ACS on STN DUPLICATE 8
 ACCESSION NUMBER: 2006:376771 CAPLUS <<LOGINID:20100715>>
 DOCUMENT NUMBER: 145:205632

TITLE: Limitations of yeast surface display in engineering proteins of high thermostability

AUTHOR(S): Park, Sheldon; Xu, Yao; Stowell, Xiaoran Fu; Gai, Feng; Saven, Jeffery G.; Boder, Eric T.

CORPORATE SOURCE: Department of Chemistry, University of Pennsylvania, Philadelphia, PA, 19104, USA

SOURCE: Protein Engineering, Design & Selection (2006), 19(5), 211-217

PUBLISHER: CODEN: PEDSBR; ISSN: 1741-0126

DOCUMENT TYPE: Oxford University Press

LANGUAGE: Journal

AB English proteins that can fold to unique structures remains a challenge. Protein stability has previously been engineered via the observed correlation between thermal stability and eukaryotic secretion level. To explore the limits of an expression-based approach, variants of the highly thermostable three-helix bundle protein $\alpha 3D$ were studied using yeast surface display. A library of $\alpha 3D$ mutants was created to explore the possible correlation of protein stability and fold with expression level. Five efficiently expressed mutants were then purified and further studied biochem. Despite their differences in stability, most mutants expressed at levels comparable with that of wild-type $\alpha 3D$. Two other related sequences ($\alpha 3A$ and $\alpha 3B$) that form collapsed, stable molten globules but lack a uniquely folded structure were similarly expressed at high levels by yeast display. Together these observations suggest that the quality control system in yeast is unable to discriminate between well-folded proteins of high stability and molten globules. The present study, therefore, suggests that an optimization of the surface display efficiency on yeast may yield proteins that are thermally and chemically stable yet are poorly folded.

OS.CITING REF COUNT: 16 THERE ARE 16 CAPLUS RECORDS THAT CITE THIS RECORD (16 CITINGS)

REFERENCE COUNT: 46 THERE ARE 46 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d 12 21-30 ti

L2 ANSWER 21 OF 47 CAPLUS COPYRIGHT 2010 ACS on STN DUPLICATE 11

TI An Immobilized Biotin Ligase: Surface Display of Escherichia coli BirA on Saccharomyces cerevisiae

L2 ANSWER 22 OF 47 CAPLUS COPYRIGHT 2010 ACS on STN DUPLICATE 12

TI Yeast surface display of a noncovalent MHC class II heterodimer complexed with antigenic peptide

L2 ANSWER 23 OF 47 CAPLUS COPYRIGHT 2010 ACS on STN DUPLICATE 13

TI Progress in the development and application of computational methods for probabilistic protein design

L2 ANSWER 24 OF 47 CAPLUS COPYRIGHT 2010 ACS on STN

TI Post-translational regulation of expression and conformation of an immunoglobulin domain in yeast surface display

L2 ANSWER 25 OF 47 CAPLUS COPYRIGHT 2010 ACS on STN DUPLICATE 14

TI Modulating the DNA Affinity of Elk-1 with Computationally Selected Mutations

L2 ANSWER 26 OF 47 CAPLUS COPYRIGHT 2010 ACS on STN DUPLICATE 15

TI Yeast cell surface display of proteins

L2 ANSWER 27 OF 47 USPATFULL on STN
 TI Yeast cell surface display of proteins and uses thereof

L2 ANSWER 28 OF 47 USPATFULL on STN
 TI Yeast cell surface display of proteins and uses thereof

L2 ANSWER 29 OF 47 CAPLUS COPYRIGHT 2010 ACS on STN
 TI Synthetic protein folding and self-assembly: Computational library design and yeast expression screening

L2 ANSWER 30 OF 47 BIOSIS COPYRIGHT (c) 2010 The Thomson Corporation on STN
 TI Synthetic protein folding and self-assembly: Computational library design and yeast expression screening.

-> d 12 22, 24, 26 ibib abs

L2 ANSWER 22 OF 47 CAPLUS COPYRIGHT 2010 ACS on STN DUPLICATE 12
 ACCESSION NUMBER: 2005:1206675 CAPLUS <<LOGINID::20100715>>
 DOCUMENT NUMBER: 144:148914
 TITLE: Yeast surface display of a noncovalent MHC class II heterodimer complexed with antigenic peptide
 AUTHOR(S): Boder, Eric T.; Bill, Jerome R.; Nields, Andrew W.; Marrack, Philippa C.; Kappler, John W.
 CORPORATE SOURCE: Department of Chemical and Biomolecular Engineering, University of Pennsylvania, Philadelphia, PA, 19104, USA
 SOURCE: Biotechnology and Bioengineering (2005), 92(4), 485-491
 CODEN: BIBIAU; ISSN: 0006-3592
 PUBLISHER: John Wiley & Sons, Inc.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Microbial protein display technologies have enabled directed mol. evolution of binding and stability properties in numerous protein systems. In particular, dramatic improvements to antibody binding affinity and kinetics have been accomplished using these tools in recent years. Examples of successful application of display technologies to other immunol. proteins have been limited to date. Herein, we describe the expression of human class II major histocompatibility complex allele (MHCII) HLA-DR4 on the surface of *Saccharomyces cerevisiae* as a noncovalently associated heterodimer. The yeast-displayed MHCII is fully native as assessed by binding of conformationally specific monoclonal antibodies; failure of antibodies specific for empty HLA-DR4 to bind yeast-displayed protein indicates antigenic peptide is bound. This report represents the first example of a noncovalent protein dimer displayed on yeast and of successful display of wild-type MHCII. Results further point to the potential for using yeast surface display for engineering and analyzing the antigen binding properties of MHCII.

OS.CITING REF COUNT: 16 THERE ARE 16 CAPLUS RECORDS THAT CITE THIS RECORD (16 CITINGS)

REFERENCE COUNT: 52 THERE ARE 52 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 24 OF 47 CAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 2006:23754 CAPLUS <<LOGINID::20100715>>
 DOCUMENT NUMBER: 144:310523
 TITLE: Post-translational regulation of expression and conformation of an immunoglobulin domain in yeast surface display

AUTHOR(S): Parthasarathy, Ranganath; Subramanian, Shyamsundar;
Boder, Eric T.; Discher, Dennis E.
CORPORATE SOURCE: Department of Chemical and Biomolecular Engineering,
University of Pennsylvania, Philadelphia, PA, 19104,
USA
SOURCE: Biotechnology and Bioengineering (2005), Volume Date
2006, 93(1), 159-168
CODEN: BIBIAU; ISSN: 0006-3592
PUBLISHER: John Wiley & Sons, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Display of heterologous proteins on the surface of *Saccharomyces cerevisiae* is increasingly being exploited for directed evolution because of straightforward cell screens. However, yeast post-translationally modifies proteins in ways that must be factored into library engineering and refinement. Here, we express the extracellular Ig domain of an ubiquitous mammalian membrane protein, CD47, which is implicated in cancer, immunocompatibility, and motility. CD47 has multiple sites of glycosylation and a core disulfide bond. We assess the effects of both of these posttranslational modifications on expression and antibody binding. CD47's extracellular domain is fused to the yeast mating protein Aga2p on the cell wall, and the resulting fusion protein binds several key antibodies, including a conformation-sensitive antibody. Site-by-site mutagenesis of CD47's five N-linked glycosylation sites progressively decreases expression levels on yeast, but folding appears stable. Cysteine mutations disrupt the expected core disulfide, and also decrease protein expression levels, though not to the extent seen with complete deglycosylation. However, with the core disulfide mutants, antibody binding proves to be lower than expected from expression levels and glycosylation is clearly reduced compared to wild-type. The results indicate that glycosylation regulates heterologous display on yeast more than core disulfides do and thus suggest bounds on directed evolution by post-translational processing.

OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD
(3 CITINGS)
REFERENCE COUNT: 50 THERE ARE 50 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 26 OF 47 CAPLUS COPYRIGHT 2010 ACS on STN DUPLICATE 15
ACCESSION NUMBER: 2004:485550 CAPLUS <<LOGINID:20100715>>
DOCUMENT NUMBER: 141:34633
TITLE: Yeast cell surface display of proteins
INVENTOR(S): Wittrup, K. Dane; Kranz, David M.; Kieck, Michele;
Boder, Eric T.
PATENT ASSIGNEE(S): The Board of Trustees of the University of Illinois,
USA
SOURCE: U.S., 59 pp., Cont.-in-part of U.S. Ser. No. 866,398,
abandoned.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 5
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6699658	B1	20040302	US 1998-9388	19980120
US 6300065	B1	20011009	US 1998-140084	19980826
CA 2319147	A1	19990722	CA 1999-2319147	19990120
WO 9936569	A1	19990722	WO 1999-US1188	19990120

W: AU, CA, JP

RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,
PT, SE

AU 9924611	A	19990802	AU 1999-24611	19990120
EP 1056883	A1	20001206	EP 1999-904154	19990120
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2002508977	T	20020326	JP 2000-540270	19990120
US 6423538	B1	20020723	US 2000-724297	20001128
US 6696251	B1	20040224	US 2000-724108	20001128
US 20020058253	A1	20020516	US 2000-731242	20001206
US 6759243	B2	20040706		
AU 2003204510	A1	20030717	AU 2003-204510	20030603
AU 2003204510	B2	20061102		
US 20040146976	A1	20040729	US 2003-738454	20031216
US 7465787	B2	20081216		
US 20040146952	A1	20040729	US 2004-783786	20040220
US 7569357	B2	20090804		
JP 2006166922	A	20060629	JP 2006-11774	20060119
AU 2007200355	A1	20070215	AU 2007-200355	20070129
US 20090280560	A1	20091112	US 2008-316916	20081216
US 20090275137	A1	20091105	US 2009-494458	20090630

PRIORITY APPLN. INFO.:

US 1996-18741P	P	19960531
US 1997-866398	B2	19970530
US 1998-9388	A2	19980120
US 1998-140084	A	19980826
AU 1999-24611	A3	19990120
JP 2000-540270	A3	19990120
WO 1999-US1188	W	19990120
US 1999-169179P	P	19991206
US 2000-724108	A3	20001128
US 2000-731242	A3	20001206
AU 2003-204510	A3	20030603
US 2003-738454	A1	20031216
US 2004-783786	A3	20040220

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB The present invention provides a genetic method for tethering polypeptides to the yeast cell wall in a form accessible for binding to macromols. Combining this method with fluorescence-activated cell sorting provides a means of selecting proteins with increased or decreased affinity for another mol., altered specificity, or conditional binding. Also provided is a method for genetic fusion of the N terminus of a polypeptide of interest to the C-terminus of the yeast Aga2p cell wall protein. The outer wall of each yeast cell can display .apprx.104 protein agglutinins. The native agglutinins serve as specific adhesion contacts to fuse yeast cells of opposite mating type during mating. In effect, yeast has evolved a platform for protein-protein binding without steric hindrance, from cell wall components. As one embodiment, attaching an scFv antibody fragment to the Aga2p agglutinin effectively mimics the cell surface display of antibodies by B cells in the immune system for affinity maturation in vivo. As another embodiment, T cell receptor mutants can be isolated by this method that are efficiently displayed on the yeast cell surface, providing a means of altering T cell receptor binding affinity and specificity by library screening.

OS.CITING REF COUNT: 6 THERE ARE 6 CAPLUS RECORDS THAT CITE THIS RECORD (6 CITINGS)

REFERENCE COUNT: 67 THERE ARE 67 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

-> d 12 31-47 ti

L2 ANSWER 31 OF 47 BIOSIS COPYRIGHT (c) 2010 The Thomson Corporation on
STN DUPLICATE 16
TI Yeast cell surface display of proteins and uses thereof.

L2 ANSWER 32 OF 47 BIOSIS COPYRIGHT (c) 2010 The Thomson Corporation on
STN
TI Human Cd47 Expressed on Yeast Cells Inhibits Their Phagocytosis.

L2 ANSWER 33 OF 47 CAPLUS COPYRIGHT 2010 ACS on STN DUPLICATE 17
TI Yeast cell surface display of proteins and selection of variants with
altered binding properties using FACS

L2 ANSWER 34 OF 47 USPATFULL on STN
TI Yeast cell surface display of proteins and uses thereof

L2 ANSWER 35 OF 47 CAPLUS COPYRIGHT 2010 ACS on STN DUPLICATE 18
TI Directed evolution of antibody fragments with monovalent femtomolar
antigen-binding affinity

L2 ANSWER 36 OF 47 CAPLUS COPYRIGHT 2010 ACS on STN
TI Yeast surface display for directed evolution of protein expression,
affinity, and stability

L2 ANSWER 37 OF 47 CAPLUS COPYRIGHT 2010 ACS on STN
TI Molecular engineering of a single-chain Fv antibody fragment to femtomolar
affinity

L2 ANSWER 38 OF 47 CAPLUS COPYRIGHT 2010 ACS on STN
TI Yeast cell surface display of proteins and selection using FACS

L2 ANSWER 39 OF 47 CAPLUS COPYRIGHT 2010 ACS on STN DUPLICATE 19
TI Selection of functional T cell receptor mutants from a yeast
surface-display library

L2 ANSWER 40 OF 47 CAPLUS COPYRIGHT 2010 ACS on STN DUPLICATE 20
TI A yeast surface display system for the discovery of ligands that trigger
cell activation

L2 ANSWER 41 OF 47 CAPLUS COPYRIGHT 2010 ACS on STN DUPLICATE 21
TI Optimal Screening of Surface-Displayed Polypeptide Libraries

L2 ANSWER 42 OF 47 CAPLUS COPYRIGHT 2010 ACS on STN
TI Antibody engineering by yeast surface display.

L2 ANSWER 43 OF 47 BIOSIS COPYRIGHT (c) 2010 The Thomson Corporation on
STN
TI Antibody engineering by yeast surface display.

L2 ANSWER 44 OF 47 CAPLUS COPYRIGHT 2010 ACS on STN DUPLICATE 22
TI Isolation of anti-T cell receptor scFv mutants by yeast surface display

L2 ANSWER 45 OF 47 CAPLUS COPYRIGHT 2010 ACS on STN DUPLICATE 23
TI Yeast surface display for screening combinatorial polypeptide libraries

L2 ANSWER 46 OF 47 BIOSIS COPYRIGHT (c) 2010 The Thomson Corporation on
STN
TI Yeast surface display system for antibody engineering.

L2 ANSWER 47 OF 47 CAPLUS COPYRIGHT 2010 ACS on STN DUPLICATE 24
TI Identification of type-2 phosphatidic acid phosphohydrolase (PAPH-2) in
neutrophil plasma membranes

=> d 12 36, 40, 41, 42, 44, 45 ibib abs

L2 ANSWER 36 OF 47 CAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2000:850040 CAPLUS <<LOGINID:20100715>>
DOCUMENT NUMBER: 135:149269
TITLE: Yeast surface display for directed evolution of
protein expression, affinity, and stability
AUTHOR(S): Boder, Eric T.; Wittrup, K. Dane
CORPORATE SOURCE: Department of Chemical Engineering, University of
Pennsylvania, Philadelphia, PA, 19104, USA
SOURCE: Methods in Enzymology (2000), 328(Applications of
Chimeric Genes and Hybrid Proteins, Pt. C), 430-444
CODEN: MENZAU; ISSN: 0076-6879
PUBLISHER: Academic Press
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English
AB A review with 26 refs. Many platforms are available for the construction
of peptide and polypeptide libraries, allowing directed evolution or
functional genomics studies. Currently, the two most widely used
polypeptide library methods are phage display and the yeast two-hybrid
method. However, neither of these methods is effective for complex
extracellular eukaryotic proteins, because of the absence of such
posttranslational modifications as glycosylation and efficient disulfide
isomerization. A yeast surface display method that addresses this
deficiency by utilizing the yeast secretory apparatus to process cell wall
protein fusions, has been developed. The method involves expression of
protein(s) of interest as a protein fusion with *Saccharomyces cerevisiae*
Aga2p mating agglutinin protein, which is linked to the yeast cell surface
by disulfide bonds. Cell surface localization and ligand-binding activity
of fusion polypeptides are quantitated using fluorescent labels and flow
cytometry. Protocols for the method and for screening for equilibrium and
kinetic binding between proteins and ligands or for screening for thermal
stability of protein-ligand interactions are described in detail. Yeast
surface display is well suited to engineer extracellular eukaryotic
proteins such as antibody fragments, cytokines, and receptor ectodomains.
(c) 2000 Academic Press.
OS.CITING REF COUNT: 126 THERE ARE 126 CAPLUS RECORDS THAT CITE THIS
RECORD (126 CITINGS)

L2 ANSWER 40 OF 47 CAPLUS COPYRIGHT 2010 ACS on STN DUPLICATE 20
ACCESSION NUMBER: 1998:708341 CAPLUS <<LOGINID:20100715>>
DOCUMENT NUMBER: 130:123476
TITLE: A yeast surface display system for the discovery of
ligands that trigger cell activation
AUTHOR(S): Cho, Bryan K.; Kleke, Michele C.; Boder, Eric
T.; Wittrup, K. Dane; Kranz, David M.
CORPORATE SOURCE: Department of Biochemistry, University of Illinois,
Urbana, IL, 61801, USA
SOURCE: Journal of Immunological Methods (1998), 220(1-2),
179-188
CODEN: JIMMBG; ISSN: 0022-1759
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Opposing cells often communicate signaling events using multivalent
interactions between receptors present on their cell surface. For
example, T cells are typically activated when the T cell receptor (TCR)
and its associated costimulatory mols. are multivalently engaged by the
appropriate ligands present on an antigen presenting cell. In this

report, yeast expressing high cell-surface levels of a TCR ligand (a recombinant antibody to the TCR V β domain) were shown to act as 'pseudo' antigen presenting cells and induce T cell activation as monitored by increased levels of CD25 and CD69 and by downregulation of cell surface TCR. Similar levels of T cell activation could occur even when a 30-fold excess of irrelevant yeast was present, suggesting that such a yeast display system, by virtue of its ability to present ligands multivalently, may be used in highly sensitive procedures to identify novel polypeptides that interact multivalently with cell surface receptors and thereby trigger specific cellular responses.

OS.CITING REF COUNT: 18 THERE ARE 18 CAPLUS RECORDS THAT CITE THIS RECORD (18 CITINGS)
 REFERENCE COUNT: 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 41 OF 47 CAPLUS COPYRIGHT 2010 ACS on STN DUPLICATE 21
 ACCESSION NUMBER: 1998:56537 CAPLUS <<LOGINID::20100715>>
 DOCUMENT NUMBER: 128:201472
 ORIGINAL REFERENCE NO.: 128:39739a,39742a
 TITLE: Optimal Screening of Surface-Displayed Polypeptide Libraries
 AUTHOR(S): Boder, Eric T.; Wittrup, K. Dane
 CORPORATE SOURCE: Department of Chemical Engineering, University of Illinois, Urbana, IL, 61801, USA
 SOURCE: Biotechnology Progress (1998), 14(1), 55-62
 CODEN: BIPRET; ISSN: 8756-7938
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB Cell surface display of polypeptide libraries combined with flow cytometric cell sorting presents remarkable potential for enhancement of protein-ligand recognition properties. To maximize the utility of this approach, screening and purification conditions must be optimized to take full advantage of the quant. feature of this technique. In particular, discrimination of improved library mutants from an excess of wild-type polypeptides is dependent upon an effective screening methodol. Fluorescence discrimination profiles for improved library mutants were derived from a math. model of expected cell fluorescence intensities for polypeptide libraries screened with fluorescent ligand. Profiles for surface-displayed libraries under equilibrium or kinetic screening conditions demonstrate distinct discrimination optima from which optimal equilibrium and kinetic screening parameters were derived. In addition, a statistical model of flow cytometrically analyzed cell populations indicates the importance of low-stringency sorting followed by amplification through regrowth and resorting at increased stringency. This anal. further yields quant. recommendations for cell-sorting stringency.

OS.CITING REF COUNT: 67 THERE ARE 67 CAPLUS RECORDS THAT CITE THIS RECORD (67 CITINGS)
 REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 42 OF 47 CAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 1998:524707 CAPLUS <<LOGINID::20100715>>
 TITLE: Antibody engineering by yeast surface display.
 AUTHOR(S): Van Antwerp, Jennifer; Boder, Eric T.; Wittrup, K. Dane
 CORPORATE SOURCE: Department Chemical Engineering, University Illinois, Urbana, IL, 61801, USA
 SOURCE: Book of Abstracts, 216th ACS National Meeting, Boston, August 23-27 (1998), B10T-047. American Chemical Society: Washington, D. C.

CODEN: 66KYA2
DOCUMENT TYPE: Conference; Meeting Abstract
LANGUAGE: English
AB Display of polypeptides on the surface of the yeast *Saccharomyces cerevisiae* has been developed as an alternative to phage display for engineering binding properties by screening of combinatorial libraries. Advantages of this system include efficient processing of proteins possessing disulfides or glycosylation, and quant. discrimination of binding kinetics or equilibrium consts. as screening criteria. This method has been applied to the affinity maturation of an anti-fluorescein single chain antibody (scFv), to obtain a three order of magnitude improvement in affinity. The method has also been applied to an anti-lysozyme scFv in order to isolate mutant forms that incorporate fewer water mols. at the binding interface, and thereby help to elucidate the role of water in protein-protein recognition.

L2 ANSWER 44 OF 47 CAPLUS COPYRIGHT 2010 ACS on STN DUPLICATE 22
ACCESSION NUMBER: 1998:168598 CAPLUS <<LOGINID:20100715>>
DOCUMENT NUMBER: 128:293721
ORIGINAL REFERENCE NO.: 128:58187a,58190a
TITLE: Isolation of anti-T cell receptor scFv mutants by yeast surface display
AUTHOR(S): Kiecke, Michele C.; Cho, Bryan K.; Boder, Eric T.; Kranz, David M.; Wittrup, K. Dane
CORPORATE SOURCE: Department of Biochemistry, University of Illinois, Urbana, IL, 61801, USA
SOURCE: Protein Engineering (1997), 10(11), 1303-1310
CODEN: PRENE9; ISSN: 0269-2139
PUBLISHER: Oxford University Press
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Yeast surface display and sorting by flow cytometry have been used to isolate mutants of an scFv that is specific for the VP8 region of the T cell receptor. Selection was based on equilibrium binding by two fluorescently labeled probes, a soluble VP8 domain and an antibody to the c-myc epitope tag present at the carboxy-terminus of the scFv. The mutants that were selected in this screen included a scFv with threefold increased affinity for the VP8 and scFv clones that were bound with reduced affinities by the anti-c-myc antibody. The latter finding indicates that the yeast display system may be used to map conformational epitopes, which cannot be revealed by standard peptide screens. Equilibrium antigen binding consts. were estimated within the surface display format, allowing screening of isolated mutants without necessitating subcloning and soluble expression. Only a relatively small library of yeast cells (3x10⁵) displaying randomly mutagenized scFv was screened to identify these mutants, indicating that this system will provide a powerful tool for engineering the binding properties of eucaryotic secreted and cell surface proteins.
OS.CITING REF COUNT: 72 THERE ARE 72 CAPLUS RECORDS THAT CITE THIS RECORD (72 CITINGS)
REFERENCE COUNT: 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 45 OF 47 CAPLUS COPYRIGHT 2010 ACS on STN DUPLICATE 23
ACCESSION NUMBER: 1997:370969 CAPLUS <<LOGINID:20100715>>
DOCUMENT NUMBER: 127:104925
ORIGINAL REFERENCE NO.: 127:20095a,20098a
TITLE: Yeast surface display for screening combinatorial polypeptide libraries
AUTHOR(S): Boder, Eric T.; Wittrup, K. Dane
CORPORATE SOURCE: Dep. Chem. Eng., Univ. Illinois, Urbana, IL, 61801,

SOURCE: USA
 Nature Biotechnology (1997), 15(6), 553-557
 CODEN: NABIF9; ISSN: 1087-0156
 PUBLISHER: Nature America
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Display on the yeast cell wall is well suited for engineering mammalian cell-surface and secreted proteins (e.g., antibodies, receptors, cytokines) that require endoplasmic reticulum-specific post-translational processing for efficient folding and activity. C-terminal fusion to the Aga2p mating adhesion receptor of *Saccharomyces cerevisiae* has been used for the selection of scFv antibody fragments with threefold decreased antigen dissociation rate from a randomly mutated library. A eukaryotic host should alleviate expression biases present in bacterially propagated combinatorial libraries. Quant. flow cytometric anal. enables fine discrimination of kinetic parameters for protein binding to soluble ligands.
 OS.CITING REF COUNT: 435 THERE ARE 435 CAPLUS RECORDS THAT CITE THIS RECORD (436 CITINGS)

-> FIL STNGUIDE			
COST IN U.S. DOLLARS	SINCE FILE	TOTAL	
	ENTRY	SESSION	
FULL ESTIMATED COST	69.83	76.65	
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)			
	SINCE FILE	TOTAL	
	ENTRY	SESSION	
CA SUBSCRIBER PRICE	-8.50	-8.50	

FILE 'STNGUIDE' ENTERED AT 15:41:37 ON 15 JUL 2010
 USE IS SUBJECT TO THE TERMS OF YOUR CUSTOMER AGREEMENT
 COPYRIGHT (C) 2010 AMERICAN CHEMICAL SOCIETY (ACS)

FILE CONTAINS CURRENT INFORMATION.
 LAST RELOADED: Jul 9, 2010 (20100709/UP).

```

-> s yeast (7a) engineer? (7a) surface
    0 YEAST
    89 ENGINEER?
    9 SURFACE
    1 SURFACES
    9 SURFACE
      (SURFACE OR SURFACES)
L3      0 YEAST (7A) ENGINEER? (7A) SURFACE

=> s yeast (7a) engineer?
    0 YEAST
    89 ENGINEER?
L4      0 YEAST (7A) ENGINEER?

-> s yeast (p) engineer? (p) surface
    0 YEAST
    89 ENGINEER?
    9 SURFACE
    1 SURFACES
    9 SURFACE
      (SURFACE OR SURFACES)
L5      0 YEAST (P) ENGINEER? (P) SURFACE

-> s yeast (p) display
    0 YEAST
  
```

142 DISPLAY
10 DISPLAYS
142 DISPLAY
(DISPLAY OR DISPLAYS)
L6 0 YEAST (P) DISPLAY

=> s yeast (p) surface
0 YEAST
9 SURFACE
1 SURFACES
9 SURFACE
(SURFACE OR SURFACES)
L7 0 YEAST (P) SURFACE

=> file .pensee		
COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	0.35	77.00
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
	ENTRY	SESSION
CA SUBSCRIBER PRICE	0.00	-8.50

FILE 'CAPLUS' ENTERED AT 15:44:24 ON 15 JUL 2010
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2010 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'MEDLINE' ENTERED AT 15:44:24 ON 15 JUL 2010

FILE 'BIOSIS' ENTERED AT 15:44:24 ON 15 JUL 2010
Copyright (c) 2010 The Thomson Corporation

FILE 'BIOTECHNO' ENTERED AT 15:44:24 ON 15 JUL 2010
COPYRIGHT (C) 2010 Elsevier Science B.V., Amsterdam. All rights reserved.

FILE 'COMPENDEX' ENTERED AT 15:44:24 ON 15 JUL 2010
Compendex Compilation and Indexing (C) 2010
Elsevier Engineering Information Inc (EEI). All rights reserved.
Compendex (R) is a registered Trademark of Elsevier Engineering Information Inc.

FILE 'ANABSTR' ENTERED AT 15:44:24 ON 15 JUL 2010
COPYRIGHT (c) 2010 THE ROYAL SOCIETY OF CHEMISTRY (RSC)

FILE 'CERAB' ENTERED AT 15:44:24 ON 15 JUL 2010
COPYRIGHT (C) 2010 Cambridge Scientific Abstracts (CSA)

FILE 'METADEX' ENTERED AT 15:44:24 ON 15 JUL 2010
COPYRIGHT (c) 2010 Cambridge Scientific Abstracts (CSA)

FILE 'USPATFULL' ENTERED AT 15:44:24 ON 15 JUL 2010
CA INDEXING COPYRIGHT (C) 2010 AMERICAN CHEMICAL SOCIETY (ACS)

=> s yeast (p) display
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'YEAST (P) DISPLAY'
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'YEAST (P) DISPLAY'
L8 14605 YEAST (P) DISPLAY

=> s yeast (p) displace (p) engineer?

PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
 FIELD CODE - 'AND' OPERATOR ASSUMED 'YEAST (P) DISPLACE'
 PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
 FIELD CODE - 'AND' OPERATOR ASSUMED 'DISPLACE (P) ENGINEER?'
 PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
 FIELD CODE - 'AND' OPERATOR ASSUMED 'YEAST (P) DISPLACE'
 PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
 FIELD CODE - 'AND' OPERATOR ASSUMED 'DISPLACE (P) ENGINEER?'
 L9 2 YEAST (P) DISPLACE (P) ENGINEER?

=> d 19 1-2

L9 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2010 ACS on STN
 AN 2007:539895 CAPLUS <<LOGINID::20100715>>
 TI Lignocellulosic Ethanol Production: Expertise, Innovation and Hope
 AU Johnson, Erin
 CS BioTransform Research Laboratories, Inc., London, ON, N6G 4X8, Can.
 SO Abstracts, 39th Central Regional Meeting of the American Chemical Society,
 Covington, KY, United States, May 20-23 (2007), CRM-402 Publisher:
 American Chemical Society, Washington, D. C.
 CODEN: 69JFCV
 DT Conference; Meeting Abstract
 LA English

L9 ANSWER 2 OF 2 USPATFULL on STN
 AN 2010:117647 USPATFULL <<LOGINID::20100715>>
 TI BINDING PROTEINS, INCLUDING ANTIBODIES, ANTIBODY DERIVATIVES AND
 ANTIBODY FRAGMENTS, THAT SPECIFICALLY BIND CD154 AND USES THEREOF
 IN Burkly, Linda C., West Newton, MA, UNITED STATES
 Ferrant-Orgettas, Janine L., Gloucester, MA, UNITED STATES
 Garber, Ellen A., Cambridge, MA, UNITED STATES
 Hsu, Yen-Ming, Lexington, MA, UNITED STATES
 Su, Lihe, Reading, MA, UNITED STATES
 Taylor, Frederick R., Milton, MA, UNITED STATES
 Adams, Ralph, Berkshire, UNITED KINGDOM
 Brown, Derek Thomas, Berkshire, UNITED KINGDOM
 Popplewell, Andrew George, Berkshire, UNITED KINGDOM
 Robinson, Martyn Kim, Berkshire, UNITED KINGDOM
 Shock, Anthony, Berkshire, UNITED KINGDOM
 Tyson, Kerry Louise, Berkshire, UNITED KINGDOM
 PA UCB Parma S.A., Brussels, BELGIUM (non-U.S. corporation)
 Biogen Idec MA, Inc., Cambridge, MA, UNITED STATES (U.S. corporation)
 PI US 20100104573 A1 20100429
 AI US 2008-532517 A1 20080321 (12)
 WO 2008-US3735 20080321
 PRAI US 2007-919816P 20070322 PCT 371 date (60)
 US 2007-919938P 20070322 (60)
 US 2007-920495P 20070327 (60)
 DT Utility
 FS APPLICATION
 LN.CNT 6031
 INCL INCLM: 424/139.100
 INCLS: 530/387.900; 530/387.300; 536/023.530; 435/320.100; 435/325.000;
 435/069.600
 NCL NCLM: 424/139.100
 NCLS: 435/069.600; 435/320.100; 435/325.000; 530/387.300; 530/387.900;
 536/023.530
 IC IPCI A61K0039-395 [I,A]; C07K0016-00 [I,A]; C07H0021-04 [I,A];
 C07H0021-00 [I,C*]; C12N0015-63 [I,A]; C12N0005-10 [I,A];
 C12P0021-02 [I,A]; A61P0029-00 [I,A]; A61P0037-00 [I,A]

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

```
=> s yeast (p) display (P) surface
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'YEAST (P) DISPLAY'
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'DISPLAY (P) SURFACE'
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'YEAST (P) DISPLAY'
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'DISPLAY (P) SURFACE'
L10      2640 YEAST (P) DISPLAY (P) SURFACE
```

```
=> dup rem l10
PROCESSING IS APPROXIMATELY 47% COMPLETE FOR L10
PROCESSING IS APPROXIMATELY 78% COMPLETE FOR L10
PROCESSING IS APPROXIMATELY 99% COMPLETE FOR L10
PROCESSING COMPLETED FOR L10
L11      1765 DUP REM L10 (875 DUPLICATES REMOVED)
```

```
=> s l11 and vector
L12      1162 L11 AND VECTOR
```

```
=> s l12 and library
L13      1054 L12 AND LIBRARY
```

```
=> s l12 and librar?
L14      1054 L12 AND LIBRAR?
```

```
=> s l14 and antigen
L15      954 L14 AND ANTIGEN
```

```
=> s l15 and antibod?
L16      951 L15 AND ANTIBOD?
```

```
=> s l16 and host
L17      913 L16 AND HOST
```

```
=> s l17 and flow cytomet?
L18      519 L17 AND FLOW CYTOMET?
```

```
=> d l18 1-6 ti
```

```
L18 ANSWER 1 OF 519 USPATFULL on STN
TI COVALENT DIABODIES AND USES THEREOF
```

```
L18 ANSWER 2 OF 519 USPATFULL on STN
TI COMPOSITIONS AND METHODS OF USE OF TARGETING PEPTIDES FOR DIAGNOSIS AND
THERAPY OF HUMAN CANCER
```

```
L18 ANSWER 3 OF 519 USPATFULL on STN
TI THERAPEUTIC MONOCLONAL ANTIBODIES THAT NEUTRALIZE BOTULINUM
NEUROTOXINS
```

```
L18 ANSWER 4 OF 519 USPATFULL on STN
TI UNIVERSAL FIBRONECTIN TYPE III BINDING-DOMAIN LIBRARIES
```

```
L18 ANSWER 5 OF 519 USPATFULL on STN
TI ANTAGONIST CX40 ANTIBODIES AND THEIR USE IN THE TREATMENT OF
INFLAMMATORY AND AUTOIMMUNE DISEASES
```

L18 ANSWER 6 OF 519 USPATFULL on STN
TI METHOD OF TREATING MALIGNANT MESOTHELIOMA

-> dup rem l18
PROCESSING COMPLETED FOR L18
L19 519 DUP REM L18 (0 DUPLICATES REMOVED)

=> d l19 6-20

L19 ANSWER 6 OF 519 USPATFULL on STN
AN 2010:153143 USPATFULL <<LOGINID::20100715>>
TI METHOD OF TREATING MALIGNANT MESOTHELIOMA
IN Morimoto, Chikao, Tokyo, JAPAN
Ohnuma, Kei, Tokyo, JAPAN
Inamoto, Teruo, Tokyo, JAPAN
PA The University of Tokyo, Tokyo, JAPAN (non-U.S. corporation)
PI US 20100135993 Al 20100603
AI US 2008-450223 Al 20080314 (12)
WO 2008-JP55344 20080314
20090925 PCT 371 date
PRAI US 2007-894786P 20070314 (60)
DT Utility
FS APPLICATION
LN.CNT 3499
INCL INCLM: 424/133.100
INCLS: 514/044.000A; 424/158.100; 424/146.100; 435/325.000; 435/072.100
NCL NCLM: 424/133.100
NCLS: 514/044.000A; 424/158.100; 424/146.100; 435/325.000; 435/072.100
IC IPCI A61K0039-395 [I,A]; A61K0031-7105 [I,A]; C12N0005-071 [I,A];
G01N0033-53 [I,A]; A61P0035-00 [I,A]

L19 ANSWER 7 OF 519 USPATFULL on STN
AN 2010:145702 USPATFULL <<LOGINID::20100715>>
TI TREATMENT OF INFLAMMATION USING BST2 INHIBITOR
IN KIM, Myung, Bethesda, MD, UNITED STATES
Chung, Jay, Bethesda, MD, UNITED STATES
Park, June-Young, Seoul, KOREA, REPUBLIC OF
Yoo, Hyouna, Kyunggi, KOREA, REPUBLIC OF
Lee, Sang-Min, Kyunggi-do, KOREA, REPUBLIC OF
Lee, Yoon-Seok, Kyunggi-do, KOREA, REPUBLIC OF
Koo, Mison, Seoul, KOREA, REPUBLIC OF
Park, Sang-Ho, Kyunggi-do, KOREA, REPUBLIC OF
PI US 20100129365 Al 20100527
AI US 2009-611090 Al 20091102 (12)
RLI Continuation-in-part of Ser. No. US 2007-757329, filed on 1 Jun 2007,
PENDING Continuation-in-part of Ser. No. US 2006-471853, filed on 20 Jun
2006, PENDING Continuation-in-part of Ser. No. WO 2005-KR4398, filed on
20 Dec 2005, PENDING
PRAI KR 2004-108909 20041220
DT Utility
FS APPLICATION
LN.CNT 6558
INCL INCLM: 424/134.100
INCLS: 424/185.100
NCL NCLM: 424/134.100
NCLS: 424/185.100
IC IPCI A61K0039-00 [I,A]; A61K0039-44 [I,A]; A61P0007-00 [I,A];
A61P0011-06 [I,A]; A61P0011-00 [I,C*]; A61P0017-00 [I,A];
A61P0009-00 [I,A]; A61P0025-00 [I,A]; A61P0025-28 [I,A];

A61P0025-16 [I,A]; A61P0037-00 [I,A]; A61P0029-00 [I,A];
A61P0003-00 [I,A]; A61P0013-12 [I,A]; A61P0013-00 [I,C*]

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L19 ANSWER 8 OF 519 USPATFULL ON STN

AN 2010:145697 USPATFULL <<LOGINID::20100715>>

TI ANTIBODIES AGAINST HUMAN INTERLEUKIN-13 AND USES THEREFOR

IN Kasalan, Marion T., Cambridge, MA, UNITED STATES
Tchistiakova, Lioudmila Gennadiyevna, Andover, MA, UNITED STATES
Veldman, Geertruida Machteld, Sudbury, MA, UNITED STATES
Marquette, Kimberly Ann, Somerville, MA, UNITED STATES
Tan, Xiang-Yang, Reading, MA, UNITED STATES
Donaldson, Debra D., Medford, MA, UNITED STATES
Lin, Laura Long, Weston, MA, UNITED STATES
Shane, Tania, Newton, MA, UNITED STATES
Tam, Amy Sze Pui, Medford, MA, UNITED STATES
Feyfant, Eric, Lexington, MA, UNITED STATES
Wood, Nancy L., Somerville, MA, UNITED STATES
Fitz, Lori J., Somerville, MA, UNITED STATES
Widom, Angela M., Acton, MA, UNITED STATES
Parris, Kevin D., Auburndale, MA, UNITED STATES
Goldman, Samuel J., Acton, MA, UNITED STATES
Saldanha, Jose W., Enfield, UNITED KINGDOM

PA WYETH LLC, Madison, NJ, UNITED STATES (U.S. corporation)

PI US 20100129360 A1 20100527

AI US 2009-575896 A1 20091008 (12)

RLI Continuation of Ser. No. US 2005-149309, filed on 9 Jun 2005, Pat. No.
US 7615213

PRAI US 2004-578473P 20040609 (60)

US 2004-581375P 20040622 (60)

US 2004-578736P 20040609 (60)

DT Utility

FS APPLICATION

LN.CNT 5069

INCL INCLM: 424/133.100

INCLS: 530/387.100; 530/387.300; 530/387.900; 424/158.100; 536/023.530;

435/358.000; 435/069.600; 436/518.000

NCL NCLM: 424/133.100

NCLS: 530/387.100; 530/387.300; 530/387.900; 424/158.100; 536/023.530;

435/358.000; 435/069.600; 436/518.000

IC IPCI A61K0039-395 [I,A]; C07K0016-24 [I,A]; C07K0016-18 [I,A];

C07H0021-00 [I,A]; C12N0005-10 [I,A]; C12P0021-00 [I,A];

G01N0033-543 [I,A]; A61P0037-02 [I,A]; A61P0037-00 [I,C*]

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L19 ANSWER 9 OF 519 USPATFULL ON STN

AN 2010:127170 USPATFULL <<LOGINID::20100715>>

TI Polypeptide Display Libraries and Methods of Making and Using
Thereof

IN Daugherty, Patrick S., Santa Barbara, CA, UNITED STATES

Bessette, Paul H., Camarillo, CA, UNITED STATES

Rice, Jeffrey, Goleta, CA, UNITED STATES

PI US 20100113303 A1 20100506

AI US 2009-563897 A1 20090921 (12)

RLI Continuation of Ser. No. US 2006-612757, filed on 19 Dec 2006, Pat. No.
US 7612019 Division of Ser. No. US 2004-920244, filed on 18 Aug 2004,

Pat. No. US 7256038

PRAI US 2003-495698P 20030818 (60)

DT Utility

FS APPLICATION

LN.CNT 4541

INCL INCLM: 506/014.000
NCL NCLM: 506/014.000
IC IPCI C40B0040-02 [I,A]
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L19 ANSWER 10 OF 519 USPATFULL on STN
AN 2010:127167 USPATFULL <<LOGINID:20100715>>
TI T CELL RECEPTOR DISPLAY
IN Jakobsen, Bent Karsten, Oxfordshire, UNITED KINGDOM
Andersen, Torben Bent, Oxfordshire, UNITED KINGDOM
Molloy, Peter Eamon, Oxfordshire, UNITED KINGDOM
Li, Yi, Oxfordshire, UNITED KINGDOM
Boulter, Jonathan Michael, Blackwood, UNITED KINGDOM
PA IMMUNOCORE LIMITED, Abingdon, UNITED KINGDOM (non-U.S. corporation)
PI US 20100113300 A1 20100506
AI US 2009-603255 A1 20091021 (12)
RLI Division of Ser. No. US 2006-532879, filed on 25 Apr 2006, ABANDONED A
371 of International Ser. No. WO 2003-GB4636, filed on 30 Oct 2003
PRAI GB 2002-26227 20021109
GB 2003-1814 20030125
GB 2003-4067 20030222
GB 2003-11397 20030516
GB 2003-16356 20030711
US 2003-463046P 20030416 (60)
DT Utility
FS APPLICATION
LN.CNT 4464
INCL INCLM: 506 9
INCLS: 435/235.100; 506/014.000; 506 7
NCL NCLM: 506 9
NCLS: 435/235.100; 506/014.000; 506 7
IC IPCI C12N0007-00 [I,A]; C40B0040-02 [I,A]; C40B0030-00 [I,A];
C40B0030-04 [I,A]
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L19 ANSWER 11 OF 519 USPATFULL on STN
AN 2010:125845 USPATFULL <<LOGINID:20100715>>
TI Anti-NGF Antibodies and Methods Using Same
IN Pons, Jaume, San Carlos, CA, UNITED STATES
Rosenthal, Arnon, Woodside, CA, UNITED STATES
PA Pfizer Inc. (U.S. corporation)
PI US 20100111970 A1 20100506
AI US 2009-618896 A1 20091116 (12)
RLI Continuation of Ser. No. US 2007-653206, filed on 12 Jan 2007, Pat. No.
US 7655232 Continuation of Ser. No. US 2003-745775, filed on 24 Dec
2003, Pat. No. US 7449616
PRAI US 2003-510006P 20031008 (60)
US 2003-443522P 20030128 (60)
US 2002-436905P 20021224 (60)
DT Utility
FS APPLICATION
LN.CNT 6486
INCL INCLM: 424/158.100
INCLS: 530/387.100; 530/388.230; 530/387.300; 435/069.700
NCL NCLM: 424/158.100
NCLS: 530/387.100; 530/388.230; 530/387.300; 435/069.700
IC IPCI A61K0039-395 [I,A]; C07K0016-00 [I,A]; C12P0021-06 [I,A];
A61P0019-02 [I,A]; A61P0019-00 [I,C*]
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L19 ANSWER 12 OF 519 USPATFULL on STN

AN 2010:117647 USPATFULL <<LOGINID:20100715>>
 TI BINDING PROTEINS, INCLUDING ANTIBODIES, ANTIBODY
 DERIVATIVES AND ANTIBODY FRAGMENTS, THAT SPECIFICALLY BIND
 CD154 AND USES THEREOF
 IN Burkly, Linda C., West Newton, MA, UNITED STATES
 Ferrant-Orgettas, Janine L., Gloucester, MA, UNITED STATES
 Garber, Ellen A., Cambridge, MA, UNITED STATES
 Hsu, Yen-Ming, Lexington, MA, UNITED STATES
 Su, Lihe, Reading, MA, UNITED STATES
 Taylor, Frederick R., Milton, MA, UNITED STATES
 Adams, Ralph, Berkshire, UNITED KINGDOM
 Brown, Derek Thomas, Berkshire, UNITED KINGDOM
 Popplewell, Andrew George, Berkshire, UNITED KINGDOM
 Robinson, Martyn Kim, Berkshire, UNITED KINGDOM
 Shock, Anthony, Berkshire, UNITED KINGDOM
 Tyson, Kerry Louise, Berkshire, UNITED KINGDOM
 PA UCB Parma S.A., Brussels, BELGIUM (non-U.S. corporation)
 Biogen Idec MA, Inc., Cambridge, MA, UNITED STATES (U.S. corporation)
 PI US 20100104573 A1 20100429
 AI US 2008-532517 A1 20080321 (12)
 WO 2008-US3735 20080321
 20090922 PCT 371 date
 PRAI US 2007-919816P 20070322 (60)
 US 2007-919938P 20070322 (60)
 US 2007-920495P 20070327 (60)
 DT Utility
 FS APPLICATION
 LN.CNT 6031
 INCL INCLM: 424/139.100
 INCLS: 530/387.900; 530/387.300; 536/023.530; 435/320.100; 435/325.000;
 435/069.600
 NCL NCLM: 424/139.100
 NCLS: 435/069.600; 435/320.100; 435/325.000; 530/387.300; 530/387.900;
 536/023.530
 IC IPCI A61K0039-395 [I,A]; C07K0016-00 [I,A]; C07H0021-04 [I,A];
 C07H0021-00 [I,C*]; C12N0015-63 [I,A]; C12N0005-10 [I,A];
 C12P0021-02 [I,A]; A61P0029-00 [I,A]; A61P0037-00 [I,A]
 CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L19 ANSWER 13 OF 519 USPATFULL on STN
 AN 2010:111353 USPATFULL <<LOGINID:20100715>>
 TI Antibody Libraries
 IN Hsieh, Chung-Ming, Newton, MA, UNITED STATES
 Kutsakova, Yuliya A., Northborough, MA, UNITED STATES
 Memmott, John E., Framingham, MA, UNITED STATES
 PA Abbott Laboratories, Abbott Park, IL, UNITED STATES (U.S. corporation)
 PI US 20100099103 A1 20100422
 AI US 2009-570897 A1 20090930 (12)
 PRAI US 2008-101483P 20080930 (61)
 DT Utility
 FS APPLICATION
 LN.CNT 3703
 INCL INCLM: 435 6
 INCLS: 536/022.100; 506/017.000; 506/026.000
 NCL NCLM: 435/006.000
 NCLS: 506/017.000; 506/026.000; 536/022.100
 IC IPCI C12Q0001-68 [I,A]; C07H0021-00 [I,A]; C40B0040-08 [I,A];
 C40B0040-04 [I,C*]; C40B0050-06 [I,A]
 CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L19 ANSWER 14 OF 519 USPATFULL on STN

AN 2010:104996 USPATFULL <<LOGINID::20100715>>
 TI Methods and vectors for display of molecules and displayed
 molecules and collections
 IN Williamson, Robert Anthony, La Jolla, CA, UNITED STATES
 Wadia, Jehangir, San Diego, CA, UNITED STATES
 Maruyama, Toshiaki, La Jolla, CA, UNITED STATES
 Chen, Zhifeng, Vista, CA, UNITED STATES
 Nelson, Joshua, La Jolla, CA, UNITED STATES
 PI US 20100093563 A1 20100415
 AI US 2009-586307 A1 20090918 (12)
 PRAI US 2008-192982P 20080922 (61)
 US 2008-192960P 20080922 (61)
 DT Utility
 FS APPLICATION
 LN.CNT 19710
 INCL INCLM: 506/017.000
 INCLS: 530/391.100; 435/320.100; 536/023.530; 435/069.700
 NCL NCLM: 506/017.000
 NCLS: 435/069.700; 435/320.100; 530/391.100; 536/023.530
 IC IPCI C40B0040-08 [I,A]; C40B0040-04 [I,C*]; C07K0019-00 [I,A];
 C12N0015-63 [I,A]; C07H0021-04 [I,A]; C07H0021-00 [I,C*]
 CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L19 ANSWER 15 OF 519 USPATFULL on STN
 AN 2010:103905 USPATFULL <<LOGINID::20100715>>
 TI Porphyromonas Gingivalis Polypeptides Useful in the Prevention of
 Periodontal Disease
 IN Dashper, Stuart Geoffrey, Brunswick East, AUSTRALIA
 Ang, Ching Seng, Kensington, AUSTRALIA
 Veith, Paul David, Ringwood East, AUSTRALIA
 Reynolds, Eric Charles, Balwyn, AUSTRALIA
 PA ORAL HEALTH AUSTRALIA PTY LTD, Carlton, Victoria, AUSTRALIA (non-U.S.
 corporation)
 PI US 20100092471 A1 20100415
 AI US 2007-306495 A1 20070627 (12)
 WO 2007-AU890 20070627
 PRAI AU 2006-903425 20081223 PCT 371 date
 20060627
 DT Utility
 FS APPLICATION
 LN.CNT 1980
 INCL INCLM: 424/139.100
 INCLS: 514/015.000; 514/014.000; 514/013.000; 514/012.000; 530/387.900
 NCL NCLM: 424/139.100
 NCLS: 514/012.000; 514/013.000; 514/014.000; 514/015.000; 530/387.900
 IC IPCI A61K0039-395 [I,A]; A61K0038-08 [I,A]; A61K0038-10 [I,A];
 A61P0043-00 [I,A]; A61K0038-16 [I,A]; C07K0016-00 [I,A]
 CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L19 ANSWER 16 OF 519 USPATFULL on STN
 AN 2010:91421 USPATFULL <<LOGINID::20100715>>
 TI Methods for creating diversity in libraries and
 libraries, display vectors and methods, and displayed
 molecules
 IN Williamson, Robert Anthony, La Jolla, CA, UNITED STATES
 Wadia, Jehangir, San Diego, CA, UNITED STATES
 Maruyama, Toshiaki, La Jolla, CA, UNITED STATES
 Chen, Zhifeng, Vista, CA, UNITED STATES
 Nelson, Joshua, La Jolla, CA, UNITED STATES
 PI US 20100081575 A1 20100401
 AI US 2009-586273 A1 20090918 (12)

PRAI US 2008-192916P 20080922 (61)
 DT Utility
 FS APPLICATION
 LN.CNT 19295
 INCL INCLM: 506 1
 INCLS: 506/016.000; 506/018.000; 506/023.000; 506/026.000
 NCL NCLM: 506/001.000
 NCLS: 506/016.000; 506/018.000; 506/023.000; 506/026.000
 IC IPCI C40B0010-00 [I,A]; C40B0040-06 [I,A]; C40B0040-10 [I,A];
 C40B0040-04 [I,C*]; C40B0050-00 [I,A]; C40B0050-06 [I,A]
 IPCR C40B0010-00 [I,C]; C40B0010-00 [I,A]; C40B0040-04 [I,C];
 C40B0040-06 [I,A]; C40B0040-10 [I,A]; C40B0050-00 [I,C];
 C40B0050-06 [I,A]; C40B0050-06 [I,C]; C40B0050-06 [I,A]
 CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L19 ANSWER 17 OF 519 USPATFULL on STN
 AN 2010:90602 USPATFULL <<LOGINID:20100715>>
 TI METHODS FOR PROTECTING AND REGENERATING BONE MARROW USING CXCR3 AGONISTS
 AND ANTAGONISTS
 IN Han, Wei, Shanghai, CHINA
 Lu, Huili, Shanghai, CHINA
 Xiang, Di, Shanghai, CHINA
 PI US 20100080756 A1 20100401
 AI US 2009-565300 A1 20090923 (12)
 PRAI US 2008-100347P 20080926 (61)
 DT Utility
 FS APPLICATION
 LN.CNT 3574
 INCL INCLM: 424/011.100
 INCLS: 424/085.200; 424/649.000; 514/012.000; 514/034.000; 514/090.000;
 514/249.000; 514/274.000; 514/283.000; 514/517.000
 NCL NCLM: 424/001.110
 NCLS: 424/085.200; 424/649.000; 514/012.000; 514/034.000; 514/090.000;
 514/249.000; 514/274.000; 514/283.000; 514/517.000
 IC IPCI A61K0038-20 [I,A]; A61K0051-00 [I,A]; A61K0033-24 [I,A];
 A61K0038-19 [I,A]; A61K0031-704 [I,A]; A61K0031-7028 [I,C*];
 A61K0031-675 [I,A]; A61K0031-519 [I,A]; A61K0031-505 [I,A];
 A61K0031-437 [I,A]; A61K0031-4353 [I,C*]; A61K0031-255 [I,A];
 A61K0031-21 [I,C*]
 IPCR A61K0038-20 [I,C]; A61K0038-20 [I,A]; A61K0031-21 [I,C];
 A61K0031-255 [I,A]; A61K0031-4353 [I,C]; A61K0031-437 [I,A];
 A61K0031-505 [I,C]; A61K0031-505 [I,A]; A61K0031-519 [I,C];
 A61K0031-519 [I,A]; A61K0031-675 [I,C]; A61K0031-675 [I,A];
 A61K0031-7028 [I,C]; A61K0031-704 [I,A]; A61K0033-24 [I,C];
 A61K0033-24 [I,A]; A61K0038-19 [I,C]; A61K0038-19 [I,A];
 A61K0051-00 [I,C]; A61K0051-00 [I,A]
 CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L19 ANSWER 18 OF 519 USPATFULL on STN
 AN 2010:85181 USPATFULL <<LOGINID:20100715>>
 TI Dual Variable Domain Immunoglobulins and Uses Thereof
 IN Ghayur, Tariq, Holliston, MA, UNITED STATES
 Morgan-Lappe, Susan E., Chicago, IL, UNITED STATES
 Reilly, Edward B., Libertyville, IL, UNITED STATES
 Kingsbury, Gillian A., Wayland, MA, UNITED STATES
 Phillips, Andrew, Libertyville, IL, UNITED STATES
 Wang, Jieyi, Lake Bluff, IL, UNITED STATES
 Bell, Randy L., Lindenhurst, IL, UNITED STATES
 Norvell, Suzanne M., Long Grove, IL, UNITED STATES
 Li, Yingchun, Buffalo Grove, IL, UNITED STATES
 Liu, Junjian, Norwich, CT, UNITED STATES

Ying, Hua, Holden, MA, UNITED STATES
 PA ABBOTT LABORATORIES, Abbott Park, IL, UNITED STATES (U.S. corporation)
 PI US 20100076178 A1 20100325
 AI US 2009-431460 A1 20090428 (12)
 PRAI US 2008-125834P 20080429 (61)
 US 2008-134283P 20080708 (61)
 US 2008-197191P 20081023 (61)
 US 2008-199009P 20081112 (61)
 DT Utility
 FS APPLICATION
 LN.CNT 22209
 INCL INCLM: 530/387.300
 NCL NCLM: 530/387.300
 IC IPCI C07K0016-00 [I,A]
 IPCR C07K0016-00 [I,C]; C07K0016-00 [I,A]
 CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L19 ANSWER 19 OF 519 USPATFULL on STN
 AN 2010:84872 USPATFULL <<LOGINID::20100715>>
 TI METHODS FOR IDENTIFYING AND MONITORING DRUG SIDE EFFECTS
 IN Hood, Leroy, Seattle, WA, UNITED STATES
 Lin, Biaoyang, Bothell, WA, UNITED STATES
 PA INSTITUTE FOR SYSTEMS BIOLOGY, Seattle, WA, UNITED STATES (U.S. corporation)
 PI US 20100075866 A1 20100325
 AI US 2009-468834 A1 20090519 (12)
 RLI Continuation of Ser. No. US 2006-342367, filed on 27 Jan 2006, ABANDONED
 PRAI US 2005-683004P 20050520 (60)
 US 2005-647792P 20050127 (60)
 DT Utility
 FS APPLICATION
 LN.CNT 5620
 INCL INCLM: 506 9
 INCLS: 435/029.000; 435/079.200
 NCL NCLM: 506/009.000
 NCLS: 435/007.920; 435/029.000
 IC IPCI C40B0030-04 [I,A]; C12Q0001-02 [I,A]; G01N0033-53 [I,A]
 IPCR C40B0030-04 [I,C]; C40B0030-04 [I,A]; C12Q0001-02 [I,C];
 C12Q0001-02 [I,A]; G01N0033-53 [I,C]; G01N0033-53 [I,A]
 CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L19 ANSWER 20 OF 519 USPATFULL on STN
 AN 2010:84332 USPATFULL <<LOGINID::20100715>>
 TI YEAST SURFACE TWO-HYBRID SYSTEM FOR QUANTITATIVE DETECTION OF
 PROTEIN-PROTEIN INTERACTIONS
 IN Jin, Moonsoo M., Ithaca, NY, UNITED STATES
 Hu, Xuebo, Ithaca, NY, UNITED STATES
 PA Cornell University, Ithaca, NY, UNITED STATES (U.S. corporation)
 PI US 20100075326 A1 20100325
 AI US 2009-558112 A1 20090911 (12)
 PRAI US 2008-96552P 20080912 (61)
 DT Utility
 FS APPLICATION
 LN.CNT 1913
 INCL INCLM: 435 6
 INCLS: 435/254.200; 435/254.210; 435/254.220; 435/254.230; 506/013.000;
 506 9
 NCL NCLM: 435/006.000
 NCLS: 435/254.200; 435/254.210; 435/254.220; 435/254.230; 506/009.000;
 506/013.000
 IC IPCI C12Q0001-68 [I,A]; C12N0001-19 [I,A]; C40B0040-00 [I,A];

C40B0030-04 [I,A]
 IPCR C12Q0001-68 [I,C]; C12Q0001-68 [I,A]; C12N0001-19 [I,C];
 C12N0001-19 [I,A]; C40B0030-04 [I,C]; C40B0030-04 [I,A];
 C40B0040-00 [I,C]; C40B0040-00 [I,A]

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

-> s l19 and py<1997
 6 FILES SEARCHED...
 L20 0 L19 AND PY<1997

-> logoff y

(FILE 'HOME' ENTERED AT 15:14:47 ON 15 JUL 2010)

FILE 'CAPLUS, MEDLINE, BIOSIS, BIOTECHNO, COMPENDEX, ANABSTR, CERAB,
 METADEX, USPATFULL' ENTERED AT 15:33:34 ON 15 JUL 2010

E BODER ERIC/AU
 L1 91 SEA FILE-MFE SPE=ON ABB=ON PLU=ON ("BODER ERIC"/AU OR
 "BODER ERIC T"/AU OR "BODER ERIC THOMAS"/AU)
 L2 47 DUP REM L1 (44 DUPLICATES REMOVED)
 D L2 1-5 TI
 D L2 4 IBIB ABS
 D L2 6-10 TI
 D L2 11-20 TI
 D L2 15 IBIB ABS
 D L2 21-30 TI
 D L2 22, 24, 26 IBIB ABS
 D L2 31-47 TI
 D L2 36, 40, 41, 42, 44, 45 IBIB ABS

FILE 'STNGUIDE' ENTERED AT 15:41:37 ON 15 JUL 2010

L3 0 SEA FILE-STNGUIDE SPE=ON ABB=ON PLU=ON YEAST (7A) ENGINEER?
 (7A) SURFACE
 L4 0 SEA FILE-STNGUIDE SPE=ON ABB=ON PLU=ON YEAST (7A) ENGINEER?
 (7A) SURFACE
 L5 0 SEA FILE-STNGUIDE SPE=ON ABB=ON PLU=ON YEAST (P) ENGINEER?
 (P) SURFACE
 L6 0 SEA FILE-STNGUIDE SPE=ON ABB=ON PLU=ON YEAST (P) DISPLAY
 L7 0 SEA FILE-STNGUIDE SPE=ON ABB=ON PLU=ON YEAST (P) SURFACE

FILE 'CAPLUS, MEDLINE, BIOSIS, BIOTECHNO, COMPENDEX, ANABSTR, CERAB,
 METADEX, USPATFULL' ENTERED AT 15:44:24 ON 15 JUL 2010

L8 14605 SEA FILE-MFE SPE=ON ABB=ON PLU=ON YEAST (P) DISPLAY
 L9 2 SEA FILE-MFE SPE=ON ABB=ON PLU=ON YEAST (P) DISPLACE (P)
 ENGINEER?
 D L9 1-2
 L10 2640 SEA FILE-MFE SPE=ON ABB=ON PLU=ON YEAST (P) DISPLAY (P)
 SURFACE
 L11 1765 DUP REM L10 (875 DUPLICATES REMOVED)
 L*** DEL 537 S YEAST (P) DISPLAY (P) SURFACE
 L*** DEL 343 S YEAST (P) DISPLAY (P) SURFACE
 L*** DEL 380 S YEAST (P) DISPLAY (P) SURFACE
 L*** DEL 121 S YEAST (P) DISPLAY (P) SURFACE
 L*** DEL 121 S YEAST (P) DISPLAY (P) SURFACE
 L*** DEL 1133 S YEAST (P) DISPLAY (P) SURFACE
 L*** DEL 1133 S YEAST (P) DISPLAY (P) SURFACE
 L*** DEL 1133 S YEAST (P) DISPLAY (P) SURFACE
 L*** DEL 1133 S YEAST (P) DISPLAY (P) SURFACE
 L12 1162 SEA FILE-MFE SPE=ON ABB=ON PLU=ON L11 AND VECTOR
 L13 1054 SEA FILE-MFE SPE=ON ABB=ON PLU=ON L12 AND LIBRARY

L14	1054	SEA FILE-MFE SPE=ON	ABB=ON	PLU=ON	L12 AND LIBRAR?
L15	954	SEA FILE-MFE SPE=ON	ABB=ON	PLU=ON	L14 AND ANTIGEN
L16	951	SEA FILE-MFE SPE=ON	ABB=ON	PLU=ON	L15 AND ANTIBOD?
L17	913	SEA FILE-MFE SPE=ON	ABB=ON	PLU=ON	L16 AND HOST
L18	519	SEA FILE-MFE SPE=ON	ABB=ON	PLU=ON	L17 AND FLOW CYTOMET?
		D L18 1-6 TI			
L19	519	DUP REM L18 (0 DUPLICATES REMOVED)			
		D L19 6-20			
L*** DEL	519	S L17 AND FLOW CYTOMET?			
L*** DEL	519	S L17 AND FLOW CYTOMET?			
L*** DEL	519	S L17 AND FLOW CYTOMET?			
L*** DEL	519	S L17 AND FLOW CYTOMET?			
L*** DEL	519	S L17 AND FLOW CYTOMET?			
L*** DEL	519	S L17 AND FLOW CYTOMET?			
L*** DEL	519	S L17 AND FLOW CYTOMET?			
L*** DEL	519	S L17 AND FLOW CYTOMET?			
L*** DEL	519	S L17 AND FLOW CYTOMET?			
L20	0	SEA FILE-MFE SPE=ON	ABB=ON	PLU=ON	L19 AND PY<1997
COST IN U.S. DOLLARS				SINCE FILE	TOTAL
				ENTRY	SESSION
FULL ESTIMATED COST				101.79	178.79
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)				SINCE FILE	TOTAL
				ENTRY	SESSION
CA SUBSCRIBER PRICE				0.00	-8.50

STN INTERNATIONAL LOGOFF AT 16:02:37 ON 15 JUL 2010

Connection closed by remote host